

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) Pseudo-isothermal chemical reactor ~~(1)~~ for heterogeneous chemical reactions comprising a substantially cylindrical shell ~~(2)~~ having axis (Z-Z), a reaction zone ~~(5)~~ defined in said shell ~~(2)~~ and at least one heat exchange unit ~~(6)~~, supported in said reaction zone ~~(5)~~ and comprising a plurality of heat exchangers ~~(7)~~, ~~characterized in that~~ wherein at least one of said heat exchangers ~~(7)~~ consists of a coil obtained from a single tubular element and has substantially parallelepiped, flattened overall dimensions.

2. (Currently amended) Chemical reactor according to claim 1, ~~characterized in that~~ wherein said heat exchanger ~~(7)~~ comprises a plurality of tubular, parallel rectilinear portions ~~(8)~~, connected together head-to-tail by a corresponding plurality of curvilinear fitting portions ~~(9)~~.

3. (Currently amended) Chemical reactor according to claim 2, ~~characterized in that~~ wherein said tubular rectilinear portions ~~(8)~~ are of equal length and have coplanar longitudinal axes.

4. (Currently amended) Chemical reactor according to claim 3, ~~characterized in that~~ wherein said curvilinear portions ~~(9)~~ are semicircular.

5. (Currently amended) Chemical reactor according to claim 3, ~~characterized in that~~ wherein said rectilinear portions ~~(8)~~ of said coil exchangers ~~(7)~~ extend radially in said reaction zone ~~(5)~~.

6. (Currently amended) Chemical reactor according to claim 3, ~~characterized in that wherein~~ said rectilinear portions (8) of said coil exchangers (7) extend in said reaction zone (5) substantially parallel to the axis (Z-Z) of the shell (2).

7. (Currently amended) Chemical reactor according to claim 1, ~~characterized in that wherein~~ said heat exchange unit comprising a plurality of said coil heat exchangers (7) has a substantially cylindrical configuration, coaxial and concentric to said reaction zone (5), in which it is supported, in said heat exchange unit (6) the coil heat exchangers (7) being arranged radially.

8. (Currently amended) Chemical reactor according to claim 7, ~~characterized in that wherein~~ in said heat exchange unit (6), the coil heat exchangers (7) are arranged radially in many coaxial and concentric arrangements.

9. (Currently amended) Chemical reactor according to ~~any one of the previous claim[[s]]~~ 1, ~~characterized in that, wherein~~ at least one of said coil heat exchangers (7) comprises an additional duct (18) supplying operating heat exchange fluid, associated with the exchanger itself in a predetermined intermediate position of the respective coil.

10. (Currently amended) Chemical reactor according to claim 3, ~~characterized in that wherein~~ said rectilinear portions (8) of said coil exchangers (7) extend parallel to a diameter of the shell (2).

11. (Currently amended) Chemical reactor according to claim 10, ~~characterized in that wherein~~ said coil exchangers (7) are arranged on imaginary equidistant parallel planes.

12. (Currently amended) Chemical reactor according to claim 11, ~~characterized in that wherein~~ said curvilinear fitting portions (9) are tangent to imaginary cylindrical surfaces

~~(22,23,24,25,26,27)~~ having a radius equal to the inner radius of the shell ~~(2)~~ and centres all arranged on the same diameter ~~(D1)~~ of the shell ~~(2)~~.